BOTANY

What can I do with this major?

AREAS	EMPLOYERS	STRATEGIES
PLANT BIOLOGY Anatomy Biochemistry Biophysics Cytology Ecology Genetics Molecular Biology Morphology Paleobotany Physiology Systematics Systems Ecology Taxonomy	Research organizations Colleges and universities Museums Botanical gardens and arboretums U.S. Department of Agriculture branches including Medical Plant Resources Laboratory, Germplasm Resources Laboratory, Animal and Plant Health Inspection Service, National Arboretum, U.S. Forest Service Federal agencies including Departments of Interior and State, U.S. Public Health Service, National Aeronautics and Space Administration, the Smithsonian Institution, and Environmental Protection Agency State agencies Environmental and biotechnical regulatory agencies Ecological consulting companies Industries including petrochemical, chemical, and lumber and paper Companies including pharmaceutical, food, seed and nursery, fruit growers, biological supply houses, and biotechnology firms	Obtain a Ph.D. for teaching and advanced research positions. Conduct undergraduate research with professors to gain experience. Apply for undergraduate research fellowships or other student research programs. Maintain a high grade point average and develop good references in preparation for graduate school. Develop excellent computer skills. Join related professional associations. Read scientific journals or articles to stay abreast of current research. Learn federal and state government job application process.
APPLIED PLANT SCIENCE Agronomy Biotechnology Breeding Economic Botany Food Science and Technology Forestry Horticulture Natural Resource Management Plant Pathology	Colleges and universities Research organizations Agriculture industry including lumber and paper, seed and nursery, fruit and vegetable growers, fermentation, food industry, and biological supply houses Biotechnology firms	Take courses or double major in your area of interest. Gain relevant experience through volunteer positions, part-time work, or internships. Obtain a Ph.D. for teaching, advanced research positions, and administration. Learn a foreign language for international work such as plant studies in the tropics.

AREAS	EMPLOYERS	STRATEGIES
Applied Plant Science, Continued	**Applied Plant Science, Continued** Industries including petrochemical, pharmaceutical, and chemical Ecological consulting companies Federal, state, and local government agencies Environmental and biotechnical regulatory agencies	**Applied Plant Science, Continued** Learn federal, state and local government job application process.
ORGANISMIC SPECIALTIES Bryology Lichenology Microbiology Pteridology Mycology Phycology/Marine Botanists	Colleges and universities Research organizations Federal and state government laboratories including Agriculture, Health, etc. Pharmaceutical companies Food and beverage industries including brewing and fermentation Hospitals Related industries	Gain experience working with technology. Become familiar with laboratory procedures and equipment. Assist a professor with research or find a part-time job in a laboratory. Obtain a graduate degree in area of interest.
EDUCATION Teaching Research Administration	Public and private high schools Colleges and universities Museums, botanical gardens and herbaria	Gain certification or licensure for high school science teaching. Obtain a Ph.D. for positions in college teaching and research. Gain experience through tutoring. Learn to work well with different types of people.
COMMUNICATION Writing Editing Botanical Illustration	Publishing companies including newspapers, magazines, books, and textbooks Professional associations Scientific and educational software companies Non-profit organizations	Take courses in technical writing, journalism, or illustration. Develop word processing and desktop publishing skills or computer-aided design. Find an internship with a magazine, newspaper, or publisher. Obtain a master's degree in scientific journalism.

AREAS	EMPLOYERS	STRATEGIES
LAW		
Agricultural Environmental Biotechnological	Law firms with environmental focus Government agencies and regulatory agencies Biotechnical regulatory firms or agencies	Obtain law degree after completion of bachelor's degree. Gain relevant experience by working at a law firm.
BUSINESS		
Sales/Marketing Administration/Management	Pharmaceutical companies Seed companies Biotechnology firms Scientific publishers Biological supply houses	Earn a minor in business. Hold leadership positions in campus organizations. Join related professional associations. Develop good communication skills; take a course in public speaking. Learn various software packages including spread sheets, databases, and word processing.
COMPUTER PROGRAMMING	Scientific and educational software companies	Double major or minor in computer programming. Gain related work experience through internships or part-time and summer jobs.

GENERAL INFORMATION

- Bachelor's degree qualifies one for work as a laboratory technician or technical assistant in education, industry, government, museums, parks, and gardens.
- Master's degree opens some opportunities in research and administration.
- Ph.D. is required for advanced research and administrative positions or college teaching. Most plant scientists work in higher education.
- Build good relationships with science professors and secure strong recommendations. Maintain a high g.p.a. for graduate school admission.
- Obtain part-time, summer, co-op, volunteer, or internship experience with government agencies, college/university labs, agricultural experiment stations, freshwater and marine biological stations, or private companies.
- Complete an undergraduate research project to decide on a specific area of interest in botany.
- Enjoy outdoor activities if planning to conduct research in an outdoor environment.
- Join organizations concerned with the world food supply and other related areas. Read scientific journals related to botany.
- Develop an excellent background in mathematics and strong verbal and written communication skills.
- Select a broad range of courses in English, social sciences, arts, and humanities.
- Become proficient with computers.

Prepared by the Career Planning staff of Career Services at The University of Tennessee, Knoxville. (1995, Revised 2000, 2005)
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